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ABSTRACT

In this paper the author takes a positive not a negative view of sign language. It is the center of attention, not as an object of interest to the specialist in language, but as the central feature in the complex sociolinguistic and psycholinguistic system that makes the deaf person part of general American culture and at the same time part of a special group. To see sign language in this way the author first examines the ways language may be presented to the eye instead of to the ear and points out the contrasts and parallels between speech and sign language. He then considers the relation of sign language to the education of the deaf in the light of bilingualism. Finally, he looks at steps that concerned teachers can take to apply research of their own of the most practical kind. The author states that sign language cannot be learned as a living, working language from these pages but hopes that teachers and educators reading them may find a new understanding of what this language is like, of how it relates to English, and of its importance in the intellectual development of the deaf child. (Author/DO)

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THE STUDY OF SIGN LANGUAGE

by WILLIAM C. STOKOE, Jr.

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Foreword

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A. Hood Roberts, Director
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THE STUDY OF SIGN LANGUAGE

by William C. Stokoe, Jr.

American education of the deaf began with sign language, but for a hundred years "signing" has been strictly prohibited in a few schools, discouraged and neglected in the rest. It has been treated as unsuitable behavior, something to be ashamed of and repressed, instead of as an object of study and a language to use. Educated deaf persons have been decrying this treatment of sign language since it began, and for a decade or so they have been joined by linguists and sociologists; but textbooks and materials now in use and the direction of most research in special education indicate that prejudice against the use of sign language and ignorance of its relation to English have not lessened. However there are signs of change: growing discontent with the low level of achievement reached by the deaf child in school, new interest in sign language from linguistics and related sciences, and greater need to conserve human resources as we confront the problems of our time. There is no need for most of the thousands of deaf children about to enter school to leave at sixteen or eighteen with only fourth-grade reading ability. In the following pages we will take a positive not a negative view of sign language. It will be the center of attention, not as an object of interest to the specialist in language, but as the central feature in the complex sociolinguistic and psycholinguistic system that makes the deaf person part of general American culture and at the same time part of a special group. To see sign language in this way it will be necessary first to examine the ways language may be presented to the eye instead of to the ear, next to point out the contrasts and parallels between speech and sign language. Then the relation of sign language to the education of the deaf will be considered in the light of bilingualism. This, the use of two or more languages with, it may be, different degrees of proficiency, in different situations, has been the object of important research in recent years and has an obvious relevance to sign language, to English, and to the sociolinguistic

functioning of the deaf. Finally we will look at steps that concerned teachers can take to apply research most appropriate to their classrooms and to carry out research of their own of the most practical kind. What does this deaf child know and understand? What does he most need to have explained to widen his grasp? How do I reach him? These are the questions that teachers must ask and answer for themselves. And these are the questions that this study addresses. The teacher knows English, but the deaf child starting school (unlike the hearing child) may not. The deaf child under the right conditions may know sign language the way a hearing child knows standard English, or Spanish, or the non-standard dialect of the ghetto; but the teacher too often knows no sign language and may even have been taught to hate and fear it. Sign language cannot be learned as a living, working language from these pages, but it is hoped that teachers and educators reading them may find a new understanding of what this language is like, of how it relates to English, and of its importance in the intellectual development of the deaf child. Even more important it is a language that can be learned by the parents of a deaf child and so become the way to more normal parent-child communication and mental and linguistic development.

1. Sight, Language, and Speech

Education for the deaf confronts a central fact: sight instead of hearing is the sense that conveys language symbols to the person who cannot hear. In the history of systematic education of the deaf this fact has not always been squarely faced. The French pioneers l'Épée and Siccard, in harmony with the empirical and scientific spirit of the Enlightenment, founded their teaching on this fact. Visibly distinct signals were built into their rigorous intellectual program of instruction. But even in l'Épée's lifetime Samuel Heinicke challenged the French approach, insisting that words, that is, ideas, could never be presented inside the mind without sounds. Their exchange of letters began in 1780.[1] Paris, Leipzig, Vienna, and Zurich -- the whole intellectual

world of Europe -- were involved. The decision of the Rector and the Fellows of the Academy of Zurich in l'Épée's favor in 1783 did not end the controversy, though the fact remains that eyes, not ears, are the deaf person's prime symbol receivers.

Modern heirs of Heinicke follow a train of reasoning that withdraws from that fact. He began by teaching deaf-mutes to make sounds, thence "to read and speak clearly and with understanding." Like all readers they had to use their eyes, but he contended that the written symbols had meaning for them only through association with the sounds that they had been taught to produce. He and teachers of the deaf before and since his time also have their pupils try to associate the sounds that they make (and that they must suppose others make) with visible facial movements -- to lipread.

Language taught by these procedures is speech, but speech with a difference: seeing the oral action of persons speaking, and making the sounds one has been taught to make. Various ways of using these procedures dominate American education of the deaf. Users of "the pure oral method" postpone reading and writing instruction until lipreading and voice production have been practiced for several years. Proponents of "the natural method" do not teach language analytically nor synthetically but "naturally" as situations arise for its use in the classroom of deaf pupils with a hearing teacher. "The oral method" differs from the other two chiefly in that reading and writing instruction accompany lipreading and speaking. In theory there is nothing for the deaf child to see when any of these procedures is in use except for the lip movements of the teacher and other pupils. In fact there is a wealth of information presented to the eyes. Besides the inevitable gesturing of the teacher there are her other actions, the room itself and all the objects in it, not to mention the activity of a handful or a double handful of bright-eyed children. American education of the deaf gambles that all this and more information can be integrated and understood by means of spoken English as it is learned from visual inspection of a speaker's face. In normal circumstances speech and language do perform this function. Many readers will have had some contact with a three or

four-year-old's "Why? What's that for? Why're you doing that? What's that thing? Where's he going?" But the oral method usually begins only after the six or seven-year-old child is in school, and then with the expectation that in one full year of instruction the average deaf child will have a lipreading and speaking vocabulary of fifty words.

The question arises whether, used in this way, the deaf child's eyes and mind are being put to anything like efficient use. This question and other considerations have turned attention to the sign language of the deaf. The American Sign Language is directly derived from the language of signs used by l'Épée and Siccard and the generations of deaf persons they instructed in eighteenth and nineteenth century France. It is the language of deaf adults in North America and has been their language for one hundred and fifty years. It has been put to special uses recently by hearing persons where speech will not work: in noisy locations, under water, and in airless space. It is also one part of the whole field of semiotics, sign and symbolic communication of all kinds, in which many sciences now have an interest. Used simultaneously with spoken English, it is the language in which deaf persons achieve a higher education.

2. The Nature of Sign Language

Sign language uses sight, as lipread speech does, but uses it in a radically different way. Sounds -- vowels and consonants along with differences in intonation -- are the elements of language received by the normal ear. What is "read" by a deaf person who has learned to do so is the positions of the lips, teeth, and tongue producing these sounds. But the elements of sign language are things seen exactly as they are done. They do not divide into vowels and consonants but into three kinds of elements. These are places, or tabs, different from each other but all recognizable as where the sign starts or acts or ends; designators (dez), the appearance of the hand or hands that make the sign; and sigs, the action itself.[2]

Just as vowels and consonants in some sequences but not in others make syllables of English and one or more syllables make words, so the elements of sign language combine in some ways and not in others as signs. Signs are considered to "have meaning" just as words are, but here some of the common misunderstandings of sign language have their beginning. The usual notion, fostered by all English-Sign handbooks, is that a sign represents a word of English and conversely that each English word listed "has a sign." The truth is different. Linguistics, the scientific study of languages as systems complete in themselves, has made it perfectly clear that no word-for-word translation of one language into another is possible. And this is true both because the semantic areas covered by words that translate each other are not congruent and because the syntactic combinations open to a word in one language are not the same ones open to a similar word in another. A sign may have some of the meanings and uses of an English word but not others. Likewise a word may translate a sign occurring in some contexts but not in others. This being so, there may be even more divergence between constructions, the phrases and sentences of the two languages, than between words and signs.

The possibilities of difference in structure between something said in standard English and the same idea expressed in sign language have been exaggerated and misrepresented. It is possible for an expression in signs to be exactly parallel to an expression in English -- of that more later. It is also possible for the constructions expressing the same thing to be quite different in the two languages. This has led some users of sign language as well as its detractors to claim that it is "ungrammatical," or "has no grammar." Unfortunately this notion, uncorrected by any real knowledge about language is repeated in many textbooks used in training teachers of the deaf and is widely believed. Again the truth is otherwise.

The signs of sign language can occur in the same order as the words in an English sentence, or they can occur in quite different order. The sign sentence may seem to omit signs for words that are essential in the English sentence. Again the sign sentence may have signs

where the English sentence has no equivalent word. Sign language grammar or syntax has its rules as well as its lexicon or vocabulary of signs, and both rules and lexicon differ from the rules and lexicon of English.

Seen as a whole system, however, sign language is quite like English or any other language. Its elements contrast with each other. (Visibly instead of audibly.) They combine in certain ways, not in others. These combinations, signs, "have meaning" as words or morphemes do. Constructions combining signs, like constructions combining words, express meanings more completely and complexly than single signs or words can. These constructions or syntactic structures are systematic, rule-governed structures. But there is a unique set of rules for making sign language constructions just as th. is for making standard English constructions, non-standard English constructions, or the constructions of any language.

Before looking at the extreme differences between sign language constructions and English, we should go more fully into the possibility of similarity. One thing that makes parallel constructions in the two languages possible is the general agreement that many signs and words do in fact, form equivalent pairs. The most important reason, however, that sign language constructions can be made to duplicate the order of English constructions is really incidental to sign language. There is a third way for language to be presented to sight -- different both from the appearance of a speaker's face and from the combinations of the elements of signs. This third way is usually known as fingerspelling, though it has also been called manual English, dactylology, the manual alphabet, and chirologia. It is usually very closely associated with sign language in use; though in "The Rochester Method," an experimental, recently revived method, fingerspelling exclusive of signs is used to teach and communicate with deaf children.

Fingerspelling works of course by virtue of the existence of alphabetic writing, and there is some evidence that its use -- perhaps more for secret communication than for serving the deaf -- is as old as the practice of scratching, carving, and writing letters. When it is

combined with sign language the differences between sign language and English grammar and vocabulary can be eliminated. Words that have no counterpart in sign language, like the, a, an, of, and all the forms of be, are simply fingerspelled.

It also serves as an important link between the two languages for the bilingual American deaf person. New signs are coined, and many old ones have been, by using the manual alphabet "hand" as dez and moving it in a certain way in a certain place. Thus the first letter of the English word becomes the dez aspect of the new sign. The signs for five of the days of the week, color names, personal names, and many other signs are made in this way.

Without this link, to the linguist interested in the grammars of the two, sign language and English seem to differ enormously. But with it, to a deaf American, shifting from one language to the other is so easy that it is usually done without conscious notice. But here a sociolinguistic distinction must be made. The deaf person who sometimes uses a sign and sometimes uses a fingerspelled word that translates the sign, is one who has achieved a higher educational level than the signer who uses the same sign (and knows its meaning, of course) but does not know that English has an equivalent word.

The conditions, then, under which a sign language sentence will preserve the order of an English sentence are (1) the free use of fingerspelling with signs, (2) the sign language user's competence to produce the English structure, and (3) occasions that call for English-like sign language instead of the colloquial or casual variety. Such occasion may be the signed interpretation for a deaf audience of a formal lecture or the natural tact of a deaf signer when conversing with a hearing viewer who is unfamiliar with colloquial signs. However, on other occasions, when the named conditions are not present, sign language sentences may show a wide departure from the patterns of standard English -- but it should be borne in mind that colloquial English, not to mention nonstandard dialectal varieties, may also depart from the models of grammatical sentences shown in schoolbooks. Two examples of such divergence will be examined in detail.

The first example is furnished by one way of signing a simple, basic sentence in English: He saw me. This sentence is called simple and basic because its syntax has been described by a small number of explicit rules for expanding 'S' into terminal symbols. Leaving aside all explanation of the meaning and the sounds that result, we may use these three rules to generate he saw me:

(1)

S → NP + VP

NP → Pro

VP → VT + NP

Figure 1 shows the structure these rules generate and, below the terminal symbols, the words in order:

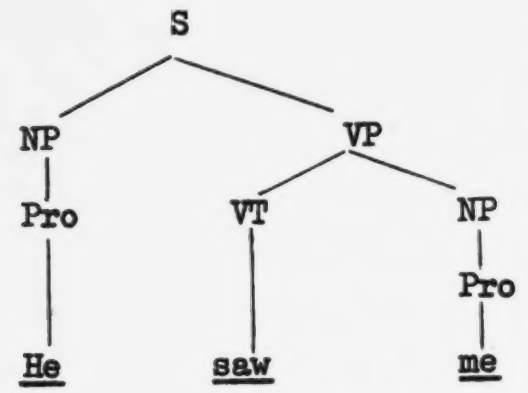

Figure 1

There should be no difficulty in relating the rule description and the diagram to terminology used traditionally in parsing sentences. The first rule describes the structure Subject + Predicate, the third rule describes the predicate as Transitive Verb + Object.

The difficulty arises when the sign sentence is put beside the English. All that an observer sees is what the manuals of sign language would call one sign, but the sign is one this writer has not found in any of them. The "sign for" 'see' is described in the manuals somewhat

as follows: "The V-hand held up so that the fingertips are opposite the signer's eyes, back of the hand outward, is moved away from the face a short distance." Instead of this, the signer whose sentence is he saw me holds the V-hand pointing obliquely out at about head level, looking at it, and with a flick of the wrist bends the fingertips toward himself.

Using the same rules for the signed sentence as for the English sentence, we are forced to observe that two of the three symbols are not expanded, those called 'Pro' in Figure 2:

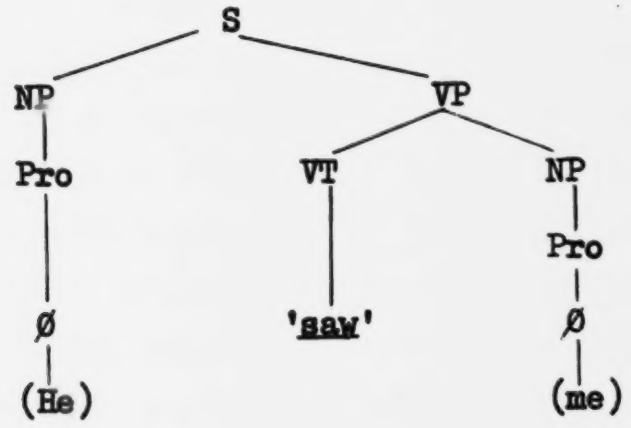

Figure 2

This will not do, although it seems to have a counterpart in English:

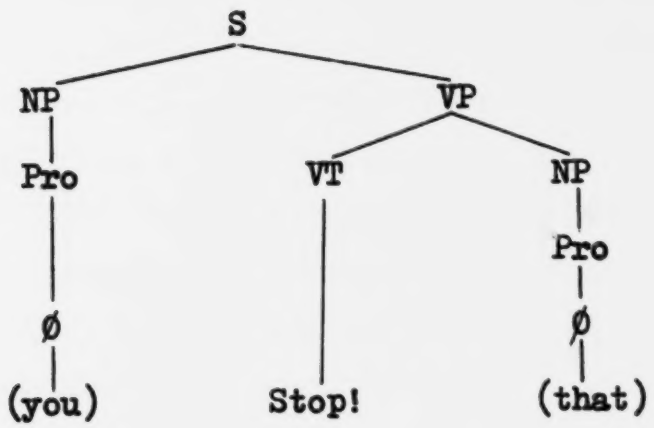

Figure 3

The speaker and hearer of English understand perfectly that Stop! may be expanded into You stop! or Stop that! or You stop that!, which in fact may occur instead of Stop! Thus all four of these English S's

have the same underlying structure and presumably the same meaning.

In the case of He saw me, however, the parties to the exchange understand exactly what this sentence says to the English reader: 'A person, not the transmitting or receiving one, which person (masculine) both writer and reader could fully identify if necessary, saw the transmitting person.' Some would add that since He saw me is a declarative sentence it also includes this meaning: 'I'm telling you that....' In the English form of course there are at least two other bits of meaning that can be separated out and shown to relate to the surface form: saw has a form that indicates the seeing took place in time past, and me redundantly indicates what its position also tells, that it is the object. Another form, he, announces that it is subject, but exactly what person, man or boy, it stands for is outside this kind of grammatical analysis. When we use an example like He saw me in a discussion of language we must suppose that the sentence is spoken where the speaker and hearer can both indicate and understand the meaning of he through glances of their eyes. (Just how much sign language, or more properly kinesics, is necessary for efficient speech among hearing persons is a subject for another paper.) Or if the center of attention is written English, we must suppose that He saw me is taken out of a series of sentences which more exactly identifies who he is.

In the sign language the same kind of supposition is necessary. Since the sign sentence is translated 'He saw me,' the meaning 'past' in the sentence must have come from a signed sentence occurring earlier in a real sign language conversation or story.

Though we can now account for the element 'past' of the sign sentence in the same way used to account for the reference of he in the English sentence, the problem remains to explain how a signer makes his sentence mean 'he saw me.' He does so (a) by changing the way of making the sign 'see' (which also means 'I see'), (b) by starting the changed sign 'see' with the hand held where it would be to sign 'him' or 'her', and (c) by moving the sign's prominent feature, the fingertips, toward the signer's self.

To sum up the comparison, or contrast rather, of the sign language and English sentences more rules are needed. First for the English, tense and object marking are specified by rules too:

(2)

S → NP + VP

NP → Pro (+ Obj, in context VP)

VP → VT + NP

VT → V + Past

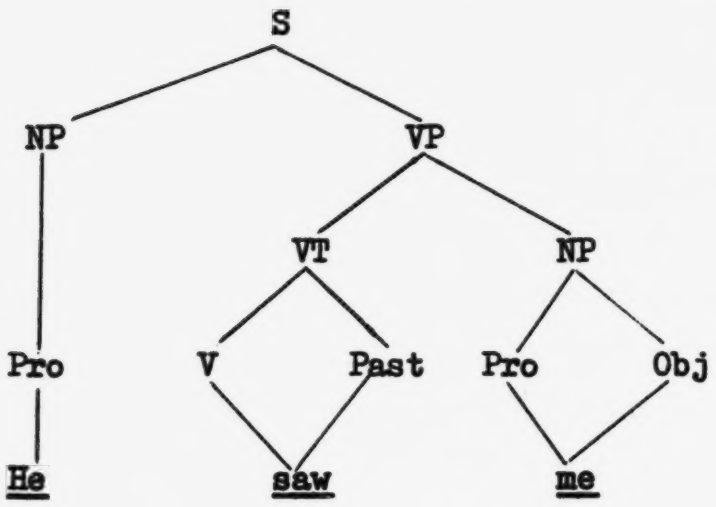

Figure 4

This is still a very simple structure, but the sentence in sign language is not. To describe it requires more and different categories, as this diagram shows:

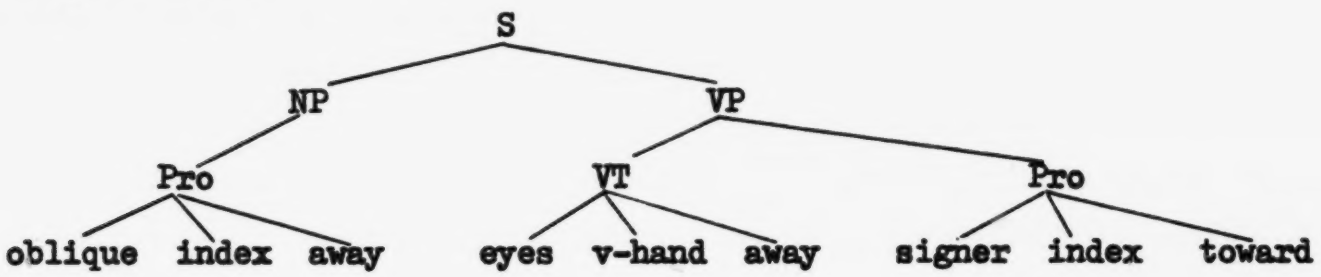

Figure 5

If these elements are put together in a sign language way, we get a three-sign sentence with the same order as in English. But the sign sentence we have been considering may be described as a transformation, or at least as a complex morphological change, by which the Verb branch is changed almost out of recognition because of its occurrence with the two Pronoun branches. All of the material on the left of the double arrow below symbolizing transformation is consolidated into the three sign elements to the right:

(3) { oblique + index + away (= 'he') + eyes + v-hand + away (= 'saw') + signer + index + toward (= 'me') } ⇒ oblique + v-hand + toward
('he') 'saw' ('me')

A number of other grammars of this one sign sentence could be written, but two points should be quite clear from this tentatively suggested description: sign language has just as much grammatical structure as English, perhaps more; and to the person who knows sign language it conveys exactly as much meaning as does the English sentence to one who knows English. And one point further. Just as He saw me ! He saw me. He saw me ? and other intonations have definite and different meanings for many English speakers, so the sign sentence can be varied with head and eye movements and modifications in the way the hand moves to indicate question, surprise, emphasis, and other meanings.

The second pair of sentences to be compared seems to show more complication on the English side. Grammarians who speak of generation and transformation would say that there is a base structure behind or underlying the sentence, There's a man in there, and point out that a transformation has made it what it is on the surface. They might write rules like these to generate that base:

(4)

S	→	NP	+	VP
NP	→	Det	+	N
VP	→	Copula	+	Adv
Adv	→	Adv	+	Adv

Following the rules generates this structure, which describes the base:

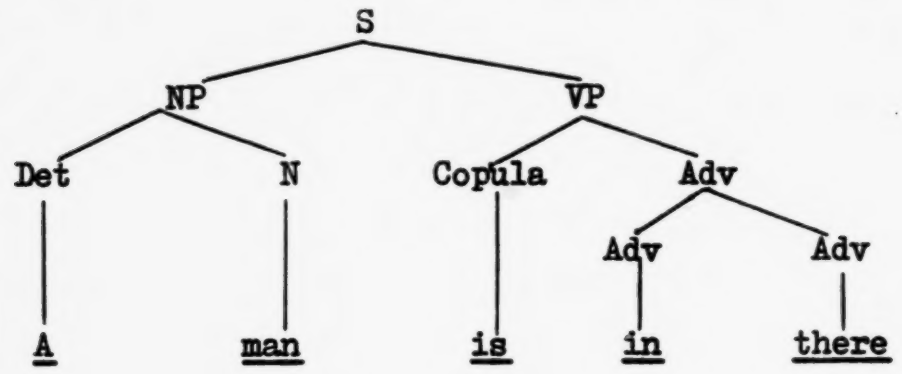

Figure 6

Various transformational rules to derive a <u>there</u>-sentence from a base have been proposed. (Part of the educational value of this kind of grammar is the practice it gives the proposer.) One proposal is to consider that two bases are transformed by embedding one in the other. This requires the generation of another base: *<u>There's something</u>. (The asterisk indicates that the sentence is suppositious.) Then <u>something</u> is replaced by the first base (rule: something $\Longrightarrow$S). The diagram shows the first stage of the embedding:

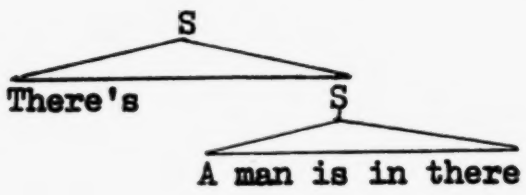

Figure 7

A deletion rule requires us to remove <u>is</u>, and the result is: <u>There's a man in there</u>. The sign language sentence that "says" the same thing seems to be much simpler in structure. It uses only two signs, 'man' and 'there'. It has no article-determiner and no copula. (Sign language like most of the world's languages does not translate <u>be</u> overtly, but in English-like signing all the eight forms of <u>be</u> are fingerspelled.) In this sentence the sign that glosses the English adverb <u>there</u>, means 'in there', because the signer would be pointing to a door or wall -- <u>the man</u> is not in sight. In the English sentence ...<u>a man there</u> means 'where you can see him too'. Thus the actual situation in which it is used determines whether this sign means 'there' or 'in there' -- a not unusual way for a language form and its situational meaning to relate.

In spite of the absence of articles and copula or linking verbs, in spite of its having just two signs, the signed equivalent of 'There's a man in there' is an extremely difficult structure to describe. What makes it so is that both signs composing it appear at exactly the same time. The rule, S → 'man' + 'there', does not work; since X + Y means 'X followed by Y'. But the rule, S → 'there' + 'man', is just as powerless to explain what happens. Neither of the structures below can be the basic structure because they too imply left-to-right order:

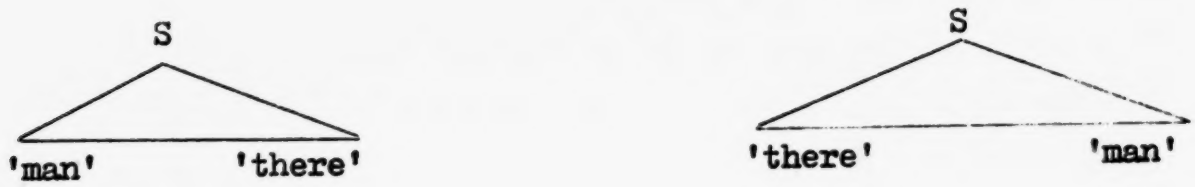

Figure 8

Order is meaningful in sign language of course just as it is in all languages. The difference between 'you forgot' and 'forgot you', signed, is just like the difference between these two English sequences. Sign language like English has XY and YX as possible orders in its syntax, but nothing in our normal conventions of writing can show the third order sign language also has. The displays $\overset{X}{Y}$ and $\overset{Y}{X}$ show a superiority that

implies priority of one symbol over the other; but no such priority can be found in sign language itself. What looks like a typist's error could show how the sign language sentence is made: X. But microscopic examination of a typist's strikeover will tell us which key was hit first. Two signs performed at the same time contain no clues to help a detective. A speaker might cry, "In there! In there!" -- to which a listener replies, "What?" and gets the answer, "A man!" With this to go on, grammarians will argue that beneath all this excitement lies the English-language competence of speaker and listener, that their competence has quietly generated this base, a man (is) in there, and that two different deletion rules have operated to let the first speaker make his outcry and his answer. But deletion, substitution, combination, and permutation transforms do not describe the sign language sentence.

The point is not that generative-transformational grammars are inadequate. "All grammars leak;" no theorist of language has yet adequately described the way languages work inside their own systems, let alone the way they work socially, in human groupings. The point instead is that sign language, far from having no grammar, has such interesting and unusual structure and system that it challenges all theories of grammar. The difference seen in just two pairs of sentences should warn us that everything we know about English, right or wrong, must be questioned all over again before we apply it to sign language.

Equally important is the fact that languages are much easier to learn and use than to describe or explain. Every natural language used (now or in the past) has been learned and learned thoroughly by every child, bright, normal, or dull, that is born among its users -- provided that he can hear.

The elements of a sign language are perfectly clear and understandable to anyone who can see. The combinations of these elements are signs that have meaning for all who use the language. Having meaning, the signs then can be used to translate English words, but translate them no better nor worse than the words of any language can translate the words of another. The combinations of the signs make sentences, but make them in two ways. With fingerspelling freely used, the sign sentence

may be a close or exact replica of an English sentence. But in casual and informal styles the sign sentences may be slightly, mildly, or wildly different in structure.

3. Social Implications of Sign Language

In the preceding section we saw that sign language order is sometimes like, sometimes unlike, the order of an English sentence. Education of the deaf is also both like and unlike American education in general. William Labov says,"...the fundamental role of the school is to teach reading and writing of standard English."[3] But the schools he takes in the aggregate play their role on the solid stage of language competence. An American child comes to school after four or five years of intensive language learning and use. As some would say, he has the rules, that is, the competence to generate and to understand countless sentences. Labov might add: "...in some standard or non-standard dialect of English." Others would say that the child has completely learned the sound subsystem, is nearly done learning the inventory of grammatical forms and their combinations, but is only well started on learning the semantic system of the language spoken where he grew to school age.

A deaf child probably has not learned any of this. The school for him undertakes teaching him literacy of course, but it assumes an additional role -- to teach him English as his native language. What surprises linguists like Labov when they learn of it, and shocks compassionate teachers like Herbert Kohl,[4] is that no school for the deaf uses sign language to perform either role. It would take too much time away from the study of sign language to go into the language methods and rationalizations that are in use, and much of the educational literature is vague or worse about language anyway. Time is better spent in looking at the sociolinguistic facts of life in silence.

One of the most important uses of language is the formation and preservation of social groups. The term group can be given its widest

meaning, for language has critical functions in the intimate group of two (though perhaps the smallest group is one person thinking) as well as in the largest national or supernational groups: "Western Civilization," "The Free World," "Socialist Peoples' Republics." If the extremes are too remote to be convincing, one has only to think of the inclusive and divisive effect of the one word black in American society of the late sixties.

The grossest social effect of sign language is to make deaf persons using it immediately visible and visibly "different." Conversely its non-use hides the deaf person or group from detection as different by a casual observer. An unreasonably high valuation put on this latter effect has worked along with outmoded language theories to keep sign language out of schools. Nevertheless these facts remain: those who cannot hear must use eyes instead of ears to receive information and in this respect alone are different from hearing persons; communication with others by lipreading and acquired speech is no more "normal" than communication by signing; deaf persons whether educated orally or left alone sign to each other.

Thus the deaf constitute a social group both by the difference of not hearing and by the social working of language. But this is grouping by separation from hearing society, and deaf people form groups just as people generally do, in part by the operation of language. Possession of a common language joins people most strongly, just as different languages divide. A minority group, the oral deaf, using no signs nor fingerspelling, find more affinity with those few hearing persons who actively promote the language of lipread and acquired speech. These deaf persons have little contact with the larger group of deaf persons whose language is sign language. That this group is small is attested by such studies as Pierre Gorman's 1960 Cambridge University thesis[5] and indirectly by the results of broad surveys both in Britain[6] and Finland[7]: among deaf pupils leaving school, speech intelligibility and understanding of what is said to them is no more than ten percent.

However, using sign language in itself is far from making a single homogeneous group. Just as among users of any language, there are all

kinds of levels or groupings both determined by language and best discerned by examining the evidence provided by language. The most important of these distinctions is age. Children, teenagers, and adults who use sign language are in far more complete communication within these age levels than across them. The case of infants is somewhat different, as in any language community. The fortunate ones -- from a language standpoint -- have deaf parents and possibly deaf brothers and sisters. Thus their early sign language puts them into perfectly natural communication within their families. Once the sign language user joins a group of age mates, -- and those whose sign language acquisition is not a family affair often learn it then -- his language is theirs and stays so for a lifetime.

Another kind of language grouping, observed among speakers of all languages, is found too among signers. Persons of the same age group sign alike except that those of the same sex sign more alike. Obviously physiological causes can be found for the difference in men's and women's voices; but when the focus is language not speech, the differences in vocabulary, grammatical rules, and every part of the system can be observed. Here the observer who comes new to signing is at an advantage. One of his first impressions will be of the difference between the signing of men and of women, a difference he may describe as angular, sharp versus round, smooth, or graceful. The reader may doubt that there is a similar difference in male and female language among speakers of English unless he has heard and noted this difference in other English dialects than his own.

A third kind of grouping, a more precisely interpersonal relationship that language accomplishes, it does through style levels. Martin Joos in his book of the same name calls these "The Five Clocks."[8] As five clocks can be set to tell different times, style levels of language can be set -- are set -- to tell different things of importance about the relation of speaker and addressee. These levels he calls intimate, casual, consultative, formal, and frozen," arranged as a central norm and opposite tendencies. Consultative style joins two people through language despite their differences, because "two heads are better than

one." Its vocabulary, sentence structure, manner of production, and information content can be taken as standard for the language. In casual style, the language itself implies "we're friends," and therefore much information may be left out that belongs in consultative. Also in casual style slang is not only premitted but required. In the other direction, formal style treats the addressee almost as if he wasn't there -- he isn't able to reply because now he is one of an audience or other formal group. All the connections must be clear in this variety of language along with every bit of information, and since interruptions are not expected or allowed careful is the obvious characterization of formal style.

Intimate style comes very close to being a contradiction to some widely used definitions of language because it is a social vehicle, a possession shared only by those who know the rules which generate it. For intimate style is private language. Husbands and wives, to take one kind of group, have a special vocabulary (pet names) as many have observed; but a clearing of the throat with a certain intonation or a grunt or a word that would have minimal meaning in other circumstances -- these have more force in an intimate group than whole paragraphs of formal language can have.

Frozen style is the imaginative label Joos gives to the style as (good) prose and poetry. He does not call it "literary" probably because in casual or consultative exchanges we take that word to mean artifical, artsy craftsy, or hoked up. "Frozen" seems a chilly label until we think of how our standard of eating has improved since benefactors of mankind have spent the time and care needed to give us frozen foods. From his discussion of this style Joos launches into a description of literature, its nature, uses, and production, by creating some. This is still pertinent to the study of sign language and of the utmost importance to every person who has contact with a deaf child. Sign language is not written, but it has a literature. Careful language characterizes formal style, but artistic language (frozen style) has more than just care behind it. Many peoples whose culture does not include writing have songs, poems, stories, charms, histories,

and liturgies. Sign language users too have artistic forms of expression, and objects to express in them. Two of the most intensively developed at the present time are fortunately widely accessible to non-signing audiences. One is a union of sign language and interpretative dancing in which signs naturally (really with consummate artistry) merge into the total movement of the dancers. The other is the National Theater of the Deaf -- visible on television and in national and international tours. This too is a natural development from pantomime and from the pioneering of the Gallaudet Dramatic Club in the fifties and sixties.

All five of these styles are found in use among signers, and recognizing them has tremendous implications for the study of sign language. First of course is the conviction that recognition of them brings: if sign language works intimately, casually, and so forth, even as it divides and unites its users by age, and as its structures come from its self-contained system, then surely it is a language of the depth and complexity that only languages have, a language well worth study. Second, when its "frozen style" embodies artistic achievements that make critics of drama and dance jump to their feet, the parents and teachers of deaf children must come to realize that using signs does not "cut off" the heights but opens new ranges to be conquered. And third, for the study of sign language itself the five styles, the five clocks are indispensable instruments.

A very creditable first attempt has been made by Elizabeth McCall to explain the syntax of sign language in "A Generative Grammar of Signs."[9] She writes phrase structure rules and transformational rules to generate some sentences of sign language she observed in use. One shortcoming is that the signs and sign activity, the elements of sign, are not described. Instead the sentences she collected are recorded as sequences of English words used to translate the signs observed. But the use of "the five clocks" could have prevented a more serious flaw than that. The signing was observed at picnics and other social occasions. The persons signing were friends, fellow workers, immediate relatives, and intimates of each other as is learned from Miss McCall's

introduction and from the internal evidence of the sentences themselves. It is a safe bet, then, if not a certainty, that the sign language she observed was all on the casual and intimate level, never even rising to the consultative, since persons not on casual terms do not go to such gatherings, or if they do, as Joos points out, they stay on strangers' footing a few seconds at most, the time for a formal introduction, and response. Then, since the characteristics of casual style are ellipsis and slang and those of intimate are extraction (of information the intimate already knows) and jargon, any attempt to write the grammar of sign language and its (partial) lexicon from this data is bound to describe something quite different from the standard (consultative or formal) sign language, the sign language that might be used to advantage in schools. Indeed the first two rules (p. 22) of Miss McCall's grammar show more things left out (parenthesis) than left in the base structures:

"1. $S \rightarrow \left\{ \begin{matrix} G \\ (Adv_e) \end{matrix} \right\} + (NP) + Pred + (T)$

2. $G \rightarrow \left\{ \begin{matrix} (Adv_e) \\ G_2 \end{matrix} \right\} + G_1$ "

The same procedure would result in a much elided rule for English sentences. Suppose we overhear a conversation between husband and wife that goes like this:

"Dear."
"Engh."
"Checks."
"N't goin' that way."

Then a panel of experts on English might translate it into as follows, with parenthetical parts to show the information left out because the addressee already knows it:

"Dear, (I would like to remind you of an errand)"
"Engh: (=yes, I hear you; what is it? I'm listening.)"

"(I am almost out of blank) checks,(and I must do the accounts tonight. Would you stop at the bank on your way to work and get some.) "Sorry, I have to drive Charley to the airport and I will) not (be) going that way."

Finally if we were to write rules for English sentences that would convey this information, with parentheses to indicate what was left out of them when they were spoken, we would probably get a generative grammar of English much like the first generative grammar of signs.

Two other ranges that Joos relates to the five styles are those of scope and responsibility. A user of a language may be understood only locally, in some wider provincial region, or anywhere that the language is used. From standard, the scope again narrows to conservative or all the way to puristic. Education and a variety od experiences are usually the means of changing local and provincial ways of using language to standard, but personal preference accounts for the later narrowing if it occurs. There is frequent reference among sign users to other signers' "home sign" and some condescension in discussion of these local and provincial manners of signing. Ironically, though, the makers of handbooks and teachers of sign language (to adults or college students, since school children are not supposed to use it) are conservative or even purist in attitude; and their descriptions of "the right way" to make signs can depart as far from standard as regional practices do in other direction. Standard of course is not a matter of legislation, but of currency. Fred Schreiber, executive secretary of the National Association of the Deaf and editor of The Deaf American, is a Texan and knows the sign language dialects of the Southwest as a native, but living in Washington, D.C. and visiting every state in the course of his work, he uses a variety of sign language that is understood everywhere. When he and Edward Carney, Albert Pimentel, Terrence O'Rourke (of the USOE Division of the Handicapped, the National Registry of Interpreters for the Deaf, and the Sign Language Program of the National Association of the Deaf respectively) discuss standardization of sign language as part of the work of their agencies, they are not trying to stop the tides of language change but only to recognize that there are local, provincial, standard, conservative, and puristic kinds of sign

language and that one who studies standard is on the surest ground.

The other range is responsibility. Just as in a person's way of speaking we detect character, so is it done in sign language. The smooth operator, the promotor, the perpetual victim, the hail-fellow-well-met, and all the other types that we associate with a way of using language are to be found in the sign language community too. One does not have to be a native signer or expert in sign language to recognize the general indications. This kind of language difference Joos calls responsibility; and we judge it of course by the way a person talks, looks, and acts, so that it is a language difference tied to many other indications.

4. Bilingualism: Sign Language and English

Bilingualism, 'the constant oral use of two languages', may be looked at from either end of the sociolonguistic telescope. It is complicated social and political problem with a linguistic center and an explosive potential, when people of two language stocks live under one government. It is also a valuable individual skill. The study of sign language requires looking in both directions. The deaf population of the United States suffers the same irritation, frustration, even loss of basic rights as other minority language groups. The deaf individual, however, faces a unique problem: one of the two languages he needs to use is not oral.

The broad social aspect of bilingualism has many facets when looked at closely. Canadian bilingualism involves two languages of high prestige and the rivalry of French, British, and North American cultural values. In other bilingual situations only one of the languages may have the prestige of worldwide use, while the other remains little known and perhaps unwritten. In the past, obviously, the world language would be that of the dominant group and the local language remain that of the governed. In the present world it is possible, however, to find the language of the emerging nationality made official, and English, French,

Dutch, or Arabic reduced to secondary status.

These are but a few of the possibilities of combination, but for the deaf the pattern is still most like that of the past. Sign language is not written, though now it may be. It is little known either to the general public or to those whose study is language. It is excluded from school and religious instruction -- outlawed in some of the United States -- though it should be said that several religious groups have been and are its staunchest supporters. For the deaf in other countries the bilingual situation can be even less advantageous. Colonialism, imperalism, and racism -- words occurring oftener now in hot debate than in cool study -- do summon up a social attitude that can be discerned in much official policy regarding sign language. Here for instance are the words of a royal commission to examine "the place if any of 'manual communication' in the education of deaf children" in Britain (emphasis added):

> Clearly the major risks associated with the use of a combined method which includes signing would be eliminated if the signs were themselves chosen from a systematic language with normal grammatical structure [10]

The charmain of the commision has amplified this in a recent address:

> Everybody knows what is commonly said about signing, that it may impede, may retard, the development of language. I think there is some misunderstanding about this, if I may give my personal opinion. The notion is that signing is more natural, that signing is easier than the mother tongue. Up to a point this is true, but if signing is to be a means of educating the children, the question is whether it is in the hands of teachers who understand what they are doing and have the skill to put it into practice; and how far the signing is itself linguistic.[11]

The commonly held notion that "the mother tongue" (anyone's mother tongue) is the sole repository of "normal grammatical structure" is a concept well known to anthropologists, who call it ethnocentrism. When it is used to deny that some other language is "systematic" and to impute to the out-group using that language a deficiency on mental functioning, this notion comes perilously close to racism. The study of the

grammatical system of sign language as well as its semantic and symbolic system is the best way to replace such superstition and prejudice with useful knowledge. One way to begin is to read the essays "The Linguistic Community" and "Sign Language Dialects" by Professor Carl Croneberg. Himself a member of the community he writes of, he has freed himself of ethnocentric bias by studies in anthropology and linguistics. Moreover he was born in Sweden and has native fluency in Scandinavian as well as in American sign language, besides combining a scholar's grasp of Sweedish and English with a clear style. His essays appear as Appendix C (pp. 297 - 311) and Appendix D (pp. 313 - 319) in A Dictionary of American Sign Language on Linguistic Principles.

Social bilingualism is important to an understanding of American education of the deaf, but the bilingual development of the individual deaf person is crucial. Indeed he faces more than the classic bilingual dilemma. The member of a minority language group (which may in this case be a non-standard dialect-using group) has the choice of staying monolingual and staying a second or third class citizen socially and economically. If he tries to shift to the other tongue, he may either succeed and shut himself off from his background and incur social and psychic costs, or fail and be rejected by the dominant group with equally serious consequences. Ideally, of course, he should grow up where he can use both languages with about equal frequency with native speakers of each, a situation hard to realize.

The person who cannot hear does not even have these choices. The chances are against his growing up in a family using sign language, and therefore he must reach school age without knowing any real use of language. Even with sign language learned from the cradle or from his first association with older deaf children he cannot receive any formal education, because the schools and teachers reject signing. Instead he will be taught to pronounce sounds and lipread them perhaps, to recognize and write letters, and possibly to fingerspell. All of this activity of course is English-language based and designed to make him a monolingual user of English. Early resistance or failure on his part to function like a native speaker of English -- dropping out -- more than likely

consigns him, not to a depressed economic status, but to a life in an institution.

As is often the case, the good sense and adjustment to reality of the linguistic minority exceeds that of well meaning officialdom. None or very few of those whose native language is sign language suppose that a monolingual life in a deaf community is an open option -- although there was a short-lived movement in the last century to set aside some of the southwest territory for a deaf state with the language of signs its official language. While the authorities try to enforce monolingual functioning in a vocal-symbol language, wiser heads in the deaf community strive for maximally effective bilingualism. The higher the level of competence in reading and writing English the sign language user can attain the better his life in the bilingual situation. Acquired speech and lipreading skill too are valued assets that no deaf person despises. The objection of the deaf is to a formal educational program which concentrates on these two "oralist" skills alone when all evidence shows that reasonable proficiency in them is attainable by very few individuals, but that for most even a dozen years of full-time effort brings frustration and failure. Meanwhile the language competence in English, read and written and understood, that could be fostered through use of the deaf child's sign language competence is lost.

From the point of view of one who cannot hear, bilingualism can be more a challenge than a dilemma. Direct personal communication with one's friends will naturally (in every sense of the word) be in sign language. One does not have this kind of relationship with foreigners, and all speakers of all oral languages will always be in a sense foreign to one who must listen with the eyes. But consultative and formal participation with others is almost exclusively in English, the language of the general culture, which affords the only way into that culture and all its benefits. Therefore the person who cannot hear will learn just as much English just as well as circumstances allow.

The main question for all those who have a hand in shaping these circumstances is this: will the deaf individual reach his maximum

competence in English better if he is forced into apparent monolingual use of the language or if his need for bilingual development is acknowledged and satisfied? This question is a somewhat different way of stating an issue that has been in controversy since the eighteenth century. The earliest debate in the oralist-manualist controversy was philosophical, as much concerned with the nature of speech and language and perception as with practical matters of instruction. In modern times the debate has degenerated to advocacy of specific educational methods and to advancement of the interests of segments of the learned profession. At one time or another otologists, speech therapists, clinical psychologists, audiologists, phoneticians, psychometrists, pediatricians, psychiatrists, reading specialists, and every other kind of educational specialists have joined the clamor. The philosophical depth of the earlier debate is covered with fragments of psychological theories of all kinds, and even these are obscured by statistical procedures good in themselves but being applied to irrelevant information.

Linguistics and sociolinguistics at least provide a different way of looking at the issue. In the first place linguistics as an anthropological science starts from the position that language is seen as part of the cultural activity of communication. Therefore difference in the way people communicate, in the things that they do, is seen as data to be studied and not as deviation, error, deprivation, primitivism, or degeneracy. Second, sociolinguistic studies have shown over and over again that bilingualism, diglossia, and other intimate combinations of languages in the individual and in society are facts of life. From a sociolinguistic viewpoint the bilingual language competence of deaf persons may be compound or complex; in contrast, the psychological model behind much current educational policy calls the language of deaf persons a pathological condition.

Fortunately some teachers' practice is better than their theory, but bad theory can still adversely affect practice. A teacher may understand a complicated statement, explanation, or request presented entirely in sign language and respond appropriately; but this teacher is all too likely to tell an observer that the pupil thus communicating

"has no language." What we are to understand from this statement requires explanation: 1. By "language" the teacher means the competence in English needed (a) to understand grammatical sentences presented in his voice or in print or writing and (b) to generate grammatical sentences and produce them in the pupil's own voice or writing. 2. By "no language" the teacher means that (a) the pupil's responses to written or spoken sentences are inappropriate or lacking, (b) that the pupil's production is in some way or ways not grammatical, or (c) both these. 3. By "has no language" the teacher implies that the pupil is as much out of place in an ordinary elementary classroom as a two-year-old would be in second grade. 4. By using "language" as the token for '(correct) English language' and not allowing it to stand for 'sign language' or for anything other than 'correct English', the teacher is guilty through ignorance (no excuse) of falsely condemning the pupil to a sub-human or at least socially inferior category. 5. This teacher is also confessing and excusing failure -- who can be blamed for not teaching anything to a child who "has no language?"

But this teacher is on the side of the angels. This teacher at least has studied or learned enough sign language to understand the pupil perfectly when he signs. What his teacher says and thinks about "language" are the residue of teacher education and textbooks, and the teacher's not using sign language to address the pupil and to help him learn English are doubtless the enforced policy of the school. The study of sign language could free such a teacher from the fear and ignorance that equate all knowledge and thought with a single language.

But such a teacher is unfortunately not typical, not in even a substantial minority. The response to the first appearance of a deaf pupil's sign language is often such utter rejection that it is ever afterwards hidden from teachers. This does not keep teachers from saying however that the pupil "has no language." Sociolinguistics could at least tell these teachers that even in a one hundred percent American community there are other languages than English and other varieties of English than theirs in constant use. Teachers and those in special education programs who will become teachers of the deaf can find other

benefits too in the study of sign language and the findings of linguistics. We will have more to say about this later.

The greatest obstacle to second language learning is lack of opportunity. There must be a great many persons, among them teachers, who would like to know another language if only they could find someone to teach them. The good fortune of finding a person one spends minutes or hours with every day to learn from as a native informant seems remote. Nevertheless, every teacher of the deaf is faced with such riches to the point of embarrassment. An older deaf pupil knows far more sign language (vocabulary and structure) than any teacher imagines. Indeed the pupil has probably become extremely skillful in hiding this knowledge because of the attitude of the school and teachers.

So, if a teacher of the deaf has a genuine desire to learn sign language, the problem is not to find one who knows it but to persaude those who know it that using sign language is permissible, even desired, behavior. A pupil who is halting, at a loss, almost inarticulate in English may be fluent, imaginative, even eloquent in sign language. Of course one who resolves to learn the pupils' language must first accept the fact that it is a language, must be undisturbed by its differences from English, and must make the pupil-informant comfortable in the communicative situation. In some cases it may be easier to find an informant not in the pupil-teacher relationship. Many teachers will find colleagues (in the vocational department), dormitory supervisors, or deaf parents of their pupils easier to approach and to learn from. For it is a difficult reversal of roles. There are many references in the writing of deaf persons to the kind of behavior (often unconscious) from hearing persons that effectively and finally checks their attempts to speak. It is the looks on the faces of those standing near when they venture to produce speech sounds. Just as clearly the deaf person perceives the kind of effect his production of signs has always elicited in the oral school environment. The classroom teacher who is at least open to being convinced that there is a case for the study of sign language has only to be attentive, sympathetic, encouraging. But this kind of attitude may be dead against the policy of the school and so will

have to be carefully considered.

5. Classroom Research and Applications

Once contact is made and a teacher is in a situation where the study of sign language can begin, progress may be rapid. Besides being in more direct communication the teacher is able to engage in fruitful research of a directly applicable kind. Contrastive study of sign language and English has barely begun as a formal activity so that any teacher with deaf children is in a position to anticipate the professional researcher. The first kind of contrast noted by everyone who encounters a new language is vocabulary matching. "What is the sign for ...?"is a question asked hundreds of times by those learning sign language. But the kind of information gathering and information storage this question represents has only limited usefulness. If there really were a definite answer each time it is asked, if there should be exactly one sign for every English word the asker knows, there would be no sign language but only a simple one-for-one code to represent standard English.

A more effective way to study contrasts may be put like this: Given sign A and word B that translate each other, what are the differences in the way they are used? The question is open -- ended. A complete answer requires a full description of each language. Yet some useful information can be discovered by asking it. For example, the third word in "from Chicago to New York" is equivalent to the third sign in this four-sign translation: < from Chicago to New York >. The sign written as < to > is made by touching or approaching one index fingertip with the other. But in translating "he forgot to pay," no sign is used for the third word. Three signs render the sentence in sign language. Then the sign language sentence may be retranslated in various ways: (1) 'Him forget pay' will occur when the translator has an open or hidden animosity toward sign language and its "native speakers." It is quite unreliable translation. (2) 'He forgot pay,' or 'He forgot paid'

are more likely to occur when the translator is more at home in sign language than in his second language -- remember that the English speaker in a billion or so patterns like this one has never failed to hear a /t/ between the two verbs and never failed to produce the /t/, but the deaf translator has never heard it. Then there is (3) 'He overlooked paying' which may occur if the translator wants to keep the number of words equal to the number of signs and also wants to keep the translation grammatical and idiomatic in English since it is so in sign language.

The large matter of contrast between mutually translating items can be broken into more detailed questions. And the teacher studying sign language can apply the answers immediately. One thing to look for is a one-to-two contrast. Some words in English take two signs to translate, for example, discuss: <discuss about> . Some signs of sign language require two-word English translations: (the cupped hand circles in front of the face): 'search for'. No one has yet made a full study of these contrasting sets of singles and doubles, and the teacher of deaf children with a real interest in sign language is in a better position to study them than most graduate students in linguistics.

The teacher too stands to be the most important consumer of this kind of research result, and the teacher's pupils are in line to receive the most benefit. Contrasts of the kind just considered make clear contrasts to a native speaker who studies sign language and who notes them. They are part, too, of the bilingual deaf signer whose English proficiency would be classed as "native." But to deaf pupils in a classroom or doing homework there is no such clear cut contrast between the patterns of one language and the patterns of the other. They will blithely write, "I searched the word in the dictionary." Or, "We discussed about Viet Nam." Any experienced teacher of the deaf can list a great many more examples of each of these two mix-ups. The teacher who makes a study of sign language will know how to take steps toward reducing their production and increasing the proportion of grammatical combinations the pupils can produce. The algorithm here is a bilingual one: "See, here's the way we sign it; but when we write it or say it in English, we

{take out this sign / put in this word}. How much and how fast the English production of pupils so taught will improve may be viewed optimistically or pessimistically, but there is good evidence that just having a teacher who knows and makes known to the class that the class is dealing with two language systems not one will pay educational and social dividends. Another approach is to look for pairs of English words that occur together in the same order but when translated take the opposite order in signs (e.g. plane reservation: <reservation plane>), or for pairs that admit no separation in one language but must be separated in the other.

Besides these syntactic contrasts which are relatively easy to discover and deal with there are other language system differences that need study. English has a unique tense system. Every finite verb in English has to be marked for past tense or be unmarked. Sign language, however, does not use verbs as time indicators at all; but signers like everyone else must deal with time. Again the classroom teacher is in position to be a front-line psycholinguistic researcher. How do children who use sign language deal with time as their sense of time, their concepts for dealing with it, and their language symbols for time concepts are developing? The work of the Swiss psychologist Jean Piaget on children's growth in handling space, time, equivalence, proportion, and the like is pertinent here, as is the application of it Hans Furth has made in his studies with deaf school children. Furth's book is somewhat misleadingly entitled. In Thinking without Language[12] he is concerned to show how deaf children's ability to perform mental operations can be far in advance of their proficiency in oral and written English. That their competence in sign language has much to do with this ability he never doubts.

Or one may move from these syntactic-semantic contrasts to semantic differences. So common a matter as degree is treated in a totally different way in the two languages. The English speaker has at his command all the resources of paralanguage and kinesics he shares with other users of his dialect. Thus he can say "good!" with intonations and voice

features and facial expression and gestures that will modify the effect of the word he utters in several ways. But in addition to these paralinguistic and kinesic modifications, he also has most of the time a wide range of words to choose from. Instead of good with whatever his voice and body added to it, he could have said, ok, fine, right, excellent, wonderful or first rate. A different choice of word presumably would also modify the effect of what the speaker says.

All the users of English that the speaker is in frequent contact with are also in complete control (though it may be outside their awareness) of both these scales of modification, the paralinguistic and the word choice. Like the speaker they know how to read the result of both ranges at once -- does wonderful with lower than normal pitch, falling intonation, and a sign of resignation indicate a more or less negative reaction than good spoken with false heartniess, speeded up tempo, clipped resonance, and a grimace? In contrast with all of this is the sign language user's communication of similar ranges of meanings. The first and most striking difference is vocabulary size. Sign language has in many semantic areas only a single sign to express what English has a whole series of words for. But despite this difference,everyone who makes a study of the communication of persons using sign language notes with surprise the subtlety and precision of their interchange. Sign language seems to have no need for large numbers of closely related separate items of vocabulary because one sign can so easily be modified to express many degrees of meaning. Sincerity, intensity, interest, and other nuances are part of the signer's performance of the sign. The size, speed, tension, precision, and duration of the actions involved in signing are all variable at will and all used and understood as message bearing fractions of total communicative activity -- but again outside the awareness of the users.

This contrast between English and sign language vocabulary size and function has a rough analogy in two mechanics' toolboxes. One has a complete set of wrenches of fixed size to fit each different size of nut or bolt head he expects to come across. The other has just one adjustable wrench which will open wide enough for the largest nut and

can be made to fit anything smaller.

This contrast of English and sign language needs much more study. In fact it would be better to treat it as a hypothesis. The testing of its truth by observing sign language and English in operation is research any teacher working with deaf pupils may undertake. Here too the opportunity to apply what one finds out is waiting. Those pupils who are found to be adept at conveying to each other finely shaded meanings have real semantic skill and should be apt learners when shown how to put the same messages across in standard English -- once the teacher has worked out the full details of the contrasted patterns.

In this contrastive study there is material of the most valuable kind. What the pupils are saying to each other is by all odds the most interesting matter. What the lesson is about - what Dick said to Jane -- what the teacher says -- these things are just not even in the same universe of discourse. One real objective of sign language study is the ultimate ability of the teacher to participate in the real, intimate, vital communication of deaf pupils, imparting all the knowledge and understanding that a teacher's experience and training can add, and ultimately to show them how all that they have to impart may be put into English appropriate to the message.

Interesting as sign language is as a system, tantalizingly like other languages and fascinatingly different, the real value to be found in the study of sign language is a human not an abstract scientific value. All language is unique. Inexhaustible and wonderful as the universe is, only man in it possesses language, which is both a measure of man's potential and an indication of the open-endedness of that potential. So powerful indeed is the combination of human mind and language that even when deprived of one of the five senses, hearing, the human mind with sign language reaches heights of achievement we are only beginning to study.

FOOTNOTES

1 An account of the early controversy is given in Christopher B. Garnett, Jr.'s Exchange of Letters between Samuel Heinicke and Abbe Charles Michel de l'Épée, N.Y.: Vantage, 1968. See also Jules Paul Seigel, "The Englightenment and the Evolution of a Language of Signs in France and England," Journal of the History of Ideas, 30(1969), 96-118.

2 For detailed description of sign language elements, combination, and lexicon, see the author's"Sign Language Structure: An outline of the visual communication systems of the American deaf," Studies in Linguistics: Occasional Papers, 8 (1960); and Stokoe, Casterline, and Croneberg, A Dictionary of American Sign Language on linguistic principles,Washington: Gallaudet College Press, 1965.

3 William Labov, The Study of Non-standard Dialects, Washington: CAL/ ERIC, 1969.

4 Herbert R. Kohl, Language and Education of the Deaf, N.Y.: Center for Urban Education, 1966.

5 Pierre Gorman, "Certain Social and Psychological Difficulties Facing the Deaf Person in the English Community" (unpubl. Ph.D. diss.) Cambridge University, 1961.

6 M.M.Lewis, The Education of Deaf Children, London: Her Majesty's Stationery Office, 1968.

7 Jaakko Pesonen, Phoneme Communication of the Deaf, Helsinki: Annales Academiae Scientiarum Fennicae, 1968.

8 New York: Harcourt Brace, 1967

9 (M.A. thesis, unpublished), University of Iowa, 1965.

10 Lewis, op. cit.

11 From a speech by Lewis at the Royal National Institute for the Deaf conference at Edinburgh, quoted in Hearing, April 1969, v24, n4, p.102.

12 New York: Vantage, 1966.

BIBLIOGRAPHY

To one beginning the study of sign language, teachers and classes can be much more helpful than books. The work of a number of sign classes in all parts of the country is coordinated by

Terrence J. O'Rourke
National Director of the
Communications Skills Program
National Association of the Deaf
Silver Spring, Maryland 20910

An active movement to use sign language again on teaching young deaf children language and literacy has begun in California. For more information:

David Anthony and Associates
1017 Lido Street
Anaheim, California

or

The Audiology Center of Redlands
240 Cajon Street
Redlands, California

Some of the books referred to in the footnotes are available now only from:

The Gallaudet College Bookstore
Gallaudet College
Washington, D.C. 20002

Among some two hundred titles the bookstore lists in the areas of deafness, speech, and hearing, the following are most pertinent to a study of sign language:

Davis, A. The Language of Signs. 91pp. 1966.
Over 800 photographs with directions for making each sign.

Fant, L.J.,Jr. Say it with Hands. 161pp. 1964.
A series of 46 lessons in signs and fingerspelling with accompanying line drawings.

Falberg, R.M. The Language of Silence. 149pp. 1963
This text for teaching the sign language is intended to be used with an instructor and a manual of signs.

Riekehof, L.L. Talk to the Deaf. 144pp. 1963.
Line drawings of about 1,000 signs used by the deaf in North America.

Springer, C.J. Talking with the Deaf. (2nd ed.) 178pp. 1961.
A manual illustrating the sign language through more than 1,000 photographs.

Stokoe, W.C.,Jr. Sign Language Structure. 78pp. 1960.
Occasional Paper number 8 of the Studies in Linguistics series and the first linguistic account of sign language.

Stokoe, Casterline, Croneberg. A Dictionary of American Sign Language. xxxiii and 346pp. 1965.
Lists and describes about 2,500 signs by tab, dez, and sig, with alphabetical index in English. Includes photographic illustrations of symbols used to list signs and introduction and appendices on the grammar of sign language and sociolinguistics.